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CIVIL AERONAUTICS JOURNAL

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CIVIL AERONAUTICS ADMINISTRATION

VOLUME 5 | WASHINGTON, JANUARY 15, 1944 | NUMBER 1

Stanton Predicts Huge Increases In Civil Airplanes, Ports, Pilots

Increased attention to post-war planing featured civil aviation developments in 1943, according to a year-end review issued recently by Charles I. Stanton, Administrator of Civil Aeronautics.

"We have in aviation a 20 billion dollar industry, employing 2,500,000 people," Mr. Stanton said. "War has made it our leading business, and while we must continue to concentrate on war activities, the Civil Aeronautics Administration believes the time has come to plan for minimizing the inevitable curtailment that peace will bring."

OVER 1,000% MORE PLANES

"With proper planning, aviation will come out of the war far bigger than when it entered. We had 25,000 civil aircraft in 1941. Three years after the war we should have 300,000, and by the end of the first post-war decade, 500,000."

Airline service to small cities, revolutionary air traffic control devices, and a greatly enlarged airport system are among the post-war possibilities explored by the Civil Aeronautics Administration during the year, Stanton said.

Major activities of the CAA in 1943 necessarily were devoted to projects directly serving the armed forces, he pointed out. These included the $400,000,000 defense airport program; operation of a 35,000-mile airway system on which 85 percent of the traffic was military; engineering, factory, and flight inspection of military transports and other noncombat planes; and flight training of more than 200,000 men for the Army and Navy.

The CAA airport program during 1943 increased the number of U. S. landing fields suitable for transport aircraft from 660 to 940. The number of such fields at the end of 1940, when the CAA program was launched, was 94. In all categories, the United States now has about 3,000 airports, compared with approximately 2,500 two years ago.

NEED 100% MORE PORTS

For the early post-war years, Stanton estimated a need for double our present number of airports. Reaching such a total of 6,000 fields, he said, might cost approximately $800,000,000, an expenditure equal to the entire present investment in United States airports. He proposed a federal aid system of financing such construction, similar to the procedure followed in road building.

Traffic along the federal airways built and maintained by CAA increased heavily, largely because of military activity, Stanton explained. There were 16,277,027 aircraft operations reported in 1943 to the CAA centers which control traffic on these aerial highways, compared with 9,208,776 operations reported in 1942.

As traffic began to approach capacity on certain busy sectors of the airways, CAA personnel intensified study of new control devices, including electrical boards for automatic posting of flight progress reports; omni-directional radio markers, which send out signals in all directions as distinct from conventional radio range stations which emit signals in four set courses for planes to follow; electronic anticollision devices by which pilots will be able to see on their instrument panel the location of all planes within the danger zone around them.

Despite heavier loading and greater utilization of airline planes, safety records grew. Number of miles flown per fatal accident in domestic air carrier operations reached an all-time high of 46,560,835 in 1943, against 22,020,572 in 1942.

Citing the work of CAA inspectors as an important factor in air safety, Stanton revealed that during 1943 more than 10,000 new aircraft were inspected at the factory by CAA representatives, flight-tested, or both. Airmen examined for certificates of competency included more than 18,000 would-be private pilots, 15,000 commercial pilots, 9,500 flight instructors and 9,000 engine mechanics.

The CAA War Training Service gave approximately 250,000 flight courses during 1943 to Army and Navy cadets. Part of this vast increase over the 1942 total of 70,000 can be attributed to the inauguration of CAA 10-hour flight indoctrination courses for all Army cadets during their college training. Previous CAA courses had been at least 35 hours in length. Full-length elementary courses continued to be given in 1943 to about 25,000 Navy cadets, and full-length elementary and advanced courses to 7,000 Army personnel slated for duty as instructors or service pilots.

The number of pilots holding CAA certificates increased from 110,510 in 1942 to 124,050 in 1943. This increase includes both new military pilots who chose to obtain civilian certificates, and

(See Predicts Increases, page 13)

Seven Years' Growth

A year-by-year account of the progress of civil aeronautics in the United States from 1936 to 1942 is carried in this issue of the Journal beginning on page 10.

Figures are given for each of the 7 years on every phase of the operations of domestic and international air carrier service, and private flying. You'll also be able to trace the growth of aircraft production, airports and landing fields, and aids to air navigation through the data given for this period.

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Delta, Northwest's Mail Pay Rate Lowered by CAB

Delta Air and Northwest Airlines have been brought under the new mail pay rate of 0.3 mill per pound-mile, making a total of eight air carriers for which the Civil Aeronautics Board has fixed this rate of mail pay within the past 13 months.

The new rate is computed on direct airport-to-airport mileage over Delta's entire system from Forth Worth to Charleston, and from Atlanta to Cincinnati. Compared to the previous rate of 24 cents per airplane mile, the reduction in the amount of money paid Delta for the transportation of mail under the new rate is estimated at $422,324 a year.

Rates Retroactive

The Board estimates that Delta's annual mail revenue will amount to $422,837, and its total profits including passenger and property operations will come to $764,923 before federal income taxes. The new rate became effective February 1, 1943.

The 0.3 mill per pound rate for Northwest Airlines' route 3 from Chicago to Seattle and Portland, and from Fargo, N. Dak., to Winnepeg, Canada; and over route 45 from St. Paul-Minneapolis to Duluth-Superior, was made effective March 1, 1943.

Reduction in mail pay a year for Northwest is estimated at $890,000, as compared with the old rate of 25 and 37 cents per airplane mile for various segments of Northwest's routes.

The Board estimates that Northwest will make a net profit of $415,589 from its entire passenger, property and mail operations after state and federal income taxes.

Dissenting Opinion

Member Harllee Branch dissented from the majority opinion in both cases as he has in all but one of the 0.3 mill mail rate decisions of the Board. He maintains that the 0.3 mill mail pay rate is not justified since it provides an element of subsidy in the mail rate of carriers no longer in the "need" class. He pointed out that the mail payment together with all other commercial revenues earned by Delta will provide the carrier with an over-all net operating profit of 46.46 percent after 40 percent federal income taxes. In his dissenting opinion in the Northwest case he said estimated operations would produce a net return of 63.59 percent on that part of the carrier's investment allocated to mail service, and a net return of 20.78 percent on its total investment.

New Aircraft Model

The CAA has approved a new model to an already certificated aircraft model. It is the Myers OTW–160 2-place land biplane with a Kinner R56 engine. The type certificate No. 736 is dated December 9, 1943.

Vol. 5 January 15, 1944 No. 1

CIVIL AERONAUTICS JOURNAL

Contents

	Page
Stanton predicts huge increases	1
Delta, Northwest's mail pay rate	2
CAB official actions	3
Domestic air carrier statistics	5
Devices for testing pilot aptitude	7
Sky-Roads exhibit	8
Civil aviation—7 years of progress	10
Status of air regulations	14
Accident reports	16

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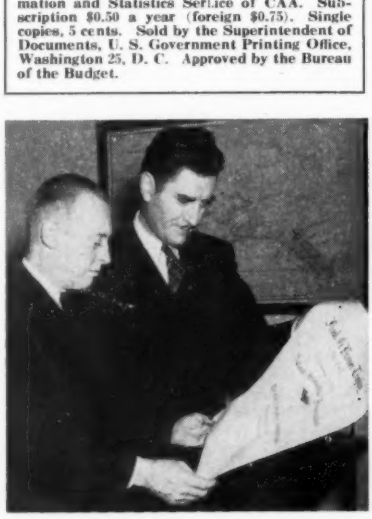

For "timely achievement in air youth education" the CAA last month became the recipient of National Aeronautics Association's Frank G. Brewer Trophy. Above, Charles I. Stanton, Administrator of Civil Aeronautics, and Bruce Uthus, his technical assistant, read the scroll which certified that CAA received the award. The bronze trophy figure will not be presented until the metal shortage is eased.

Opinion 52 Printed

Opinion 52, "Braniff Airways, Inc.—Mail Rates For Routes Nos. 9, 15, and 52," Docket No. 666, is now available in printed form as an advance sheet prior to its inclusion in volume 3 of the Civil Aeronautics Board Reports. It may be obtained from the Superintendent of Documents, Government Printing Office, Washington 25, D. C., for 10 cents. When ordering, be sure to include the opinion serial number and the docket number as well as the title.

Opinion 51, entitled "Northeast Mail Rates," will not be printed until the interests of national security permit its publication.

Texas Cities Get Temporary Service—As a Feeder Test

As an experiment in local feeder service, the Civil Aeronautics Board has granted Essair, Inc., a temporary certificate of public convenience and necessity for the transportation of persons, property, and mail between the Texas cities of Houston and Amarillo. The intermediate points are Austin, San Angelo, Abilene, and Lubbock. Service is authorized until December 31, 1946, on condition that the carrier serve each intermediate point on each schedule.

The Board's action in the Essair case is part of the study it is making of local, feeder, and pickup service, and follows its public hearing for this type of service. In outlining the reasons for certificating Essair the Board said that local air transportation service such as Essair has proposed presents a difficult economic problem to which a great deal of study is being devoted and it is desirable that this study be supplemented by the accumulation of actual experience with new types of operation of particular interest or of potential importance. The service which will be given by local carriers concentrating upon the problems of a limited region in which the terrain and climate are generally favorable to such operations, and emphasizing service to intermediate points rather than competition for through traffic, seems to be sufficiently distinctive in character and of sufficient interest in relation to the general planning of future development to justify its establishment in the west Texas area on an experimental basis.

"Since the authorization can be a temporary one it need not be deemed to foreclose any of the numerous questions of policy involved in the investigation of local, feeder, and pick-up air services," the Board said.

Included in the same order with the Essair decision are other decisions in the so-called Texas cases. Braniff Airways has been granted a stop at Austin on its route between Houston and Laredo. The Board has also authorized temporary service for Continental Airlines between El Paso and San Antonio, via Hobbs, N. Mex., and Midland, Big Spring, and San Angelo, Tex.

The applications of American Airlines and Braniff for service between El Paso and San Antonio were denied in this decision. Still pending before the Board is American's application to serve San Antonio on the Fort Worth-Dallas leg of its Monterrey-Mexico City operation.

Amendment to ANC–5

Users of the Army-Navy-Civil handbook, ANC–5, "Strength of Aircraft Elements," are advised that amendment No. 1 to the December 1942 edition of ANC–5 can now be purchased from the Superintendent of Documents, Government Printing Office, Washington 25, D. C., for 15 cents a copy.

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Orders

No. 2553 ..... *November 29, 1943*
Suspended for 90 days private pilot certificate held by Cecil D. Urban for certain violations of the Civil Air Regulations.

No. 2554 ..... *November 29, 1943*
Temporarily suspended commercial pilot certificate held by Earl McQuown, Jr., for certain violations of the Civil Air Regulations.

No. 2555 ..... *November 30, 1943*
Authorized American Airlines, Inc., to temporarily provide air transportation to and from Joplin as an additional intermediate point on route 30 between Springfield, Mo., and Tulsa, Okla.

No. 2556 ..... *November 30, 1943*
Authorized Mid-Continent Airlines, Inc., to temporarily provide air transportation to and from Joplin as an additional intermediate point on route 26 between Tulsa, Okla., and Kansas City, Mo.

No. 2557 ..... *December 8, 1943*
Dismissed motion of Public Counsel to consolidate application of Northeast Airlines, Inc., Docket No. 1083, and the applications of E. W. Wiggins Airways, Inc., Docket Nos. 399 and 526, and Northeast Airlines, Inc., Docket No. 1084; denied petition by E. W. Wiggins Airways, Inc., to intervene in Docket No. 1083.

No. 2558 ..... *December 2, 1943*
Assigned for hearing and consolidated into one proceeding certain dockets re applications of various airlines for certificates and amendments of existing certificates; and the petition of the city of Spartanburg, S. C., for air transportation service.

No. 2559 ..... *December 3, 1943*
Temporarily suspended private pilot certificate held by William G. Stacey for certain violations of the Civil Air Regulations.

No. 2560 ..... *December 3, 1943*
Temporarily suspended student pilot certificate held by Charles G. Burdette, Jr., for certain violations of the Civil Air Regulations.

No. 2561 ..... *December 3, 1943*
Revoked student pilot certificate held by Douglas T. King for certain violations of the Civil Air Regulations.

No. 2562 ..... *December 3, 1943*
Revoked private pilot certificate held by Harry C. Grimm for certain violations of the Civil Air Regulations.

No. 2563 ..... *December 4, 1943*
Granted Air Line Pilots Association, International, permission to intervene re application for control by Western Air Lines, Inc., of Inland Air Lines, Inc.

No. 2564 ..... *December 4, 1943*
Denied petition of National Airlines, Inc., for reconsideration of order of consolidation re applications of various airlines for certificates and amendments of certificates, and the petition of Birmingham, Ala.

No. 2565 ..... *December 4, 1943*
Approved interlocking relationships re application of Hawaiian Airlines, Ltd., and David Watson.

No. 2566 ..... *December 4, 1943*
Approved interlocking relationships re applications of John E. Slater and American Export Airlines, Inc.

No. 2567 ..... *December 6, 1943*
Consolidated applications of various airlines for certificates of public convenience and necessity authorizing additional air service in Mexico, Central, and South America, and the Caribbean.

No. 2568 ..... *December 6, 1943*
Denied motion of Royal Dutch Air Lines (KIM) to consolidate its application, Docket No. 1187, with the consolidated proceeding involving applications for certificates authorizing additional service between the United States and points in Mexico, Central, and South America, and the Caribbean.

No. 2569 ..... *December 6, 1943*
Granted permission to W. R. Grace & Co. to intervene re applications for certificates authorizing additional air service in Mexico, Central, and South America, and the Caribbean.

No. 2570 ..... *December 6, 1943*
Revoked student pilot certificate held by Thomas W. Faires for certain violations of the Civil Air Regulations.

No. 2571 ..... *December 6, 1943*
Revoked student pilot certificate held by Darrell G. Butz for certain violations of the Civil Air Regulations.

No. 2572 ..... *December 6, 1943*
Temporarily suspended student pilot certificate held by Carl O. Peterson for certain violations of the Civil Air Regulations.

No. 2573 ..... *December 6, 1943*
Denied petition of Alex Papana for a waiver of section 20.142 of the Civil Air Regulations.

Nos. 2574 and 2575 ... *November 4, 1943*
Amended certificate of Continental Air Lines, Inc., for route 29 so as to authorize air transportation between El Paso and San Antonio, Tex., via Hobbs, N. Mex., Midland, Big Spring, and San Angelo, Tex., for 3 years; denied applications of airline in all other respects. Granted a temporary certificate, to remain in effect until December 31, 1946, to Essair, Inc., authorizing air transportation between Houston and Amarillo, Tex., via Austin, San Angelo, Abilene, and Lubbock, Tex., subject to certain conditions; denied application in all other respects. Amended certificate of Braniff Airways, Inc., for route 50 to include Austin, Tex., as an intermediate point between Houston and Laredo, Tex. Denied applications of Braniff Airways, Inc., Transcontinental & Western Air, Inc., and American Airlines, Inc., in all other respects (opinion and order).

No. 2576 ..... *December 7, 1943*
Withheld from public disclosure certain documents re application of Western Air Lines, Inc., for approval of the acquisition of control by Western Air Lines, Inc., of Inland Air Lines, Inc.

No. 2577 ..... *December 8, 1943*
Consolidated into one proceeding applications of Mid-Continent Airlines, Inc., Kansas City Southern Transport Co., and/or Kansas City Southern Railway Co., Delta Air Corporation, and National Airlines, Inc.; granted permission to Chicago & Southern Air Lines, Inc., Braniff Airways, Inc., Transcontinental & Western Air, Inc., Eastern Air Lines, Inc., American Airlines, Inc., and the Department of Justice of the United States to intervene in this proceeding; canceled order No. 1054 which consolidated the proceedings in Docket 536 and 413.

No. 2578 ..... *December 8, 1943*
Denied petition of Mid-Continent Airlines, Inc., for reconsideration of order of consolidation re applications of certain airlines for certificates and amendments of certificates, and the petition of Birmingham, Ala.

No. 2579 ..... *December 8, 1943*
Temporarily suspended mechanic certificate held by Leslie W. Mauldin for violation of the Civil Air Regulations.

No. 2580 ..... *December 10, 1943*
Denied motion filed by Delta Air Corporation to vacate the Board's Order No. 2105, ordered that after February 1, 1943, the rate of compensation for the transportation of mail by Delta Air Corporation be fixed at 0.3 mill per pound mile of mail carried, computed on direct airport-to-airport mileage (opinion and order).

No. 2581 ..... *December 13, 1943*
Dismissed complaint filed against Jos. A. Merlo, holder of student pilot certificate (opinion and order).

No. 2582 ..... *December 13, 1943*
Dismissed complaint filed against E. E. Basham, Sr. (opinion and order).

No. 2583 ..... *December 11, 1943*
Fixed the rate of compensation for the transportation of mail by Northwest Airlines, Inc., over routes 3 and 45 at 0.3 mill per pound mile of mail carried (opinion and order).

No. 2584 ..... *December 16, 1943*
Granted the Department of Justice permission to intervene re applications for certificates authorizing additional air service in Mexico, Central and South America, and the Caribbean.

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No. 2585 ..... *December 17, 1943*
Denied request of William T. Weik, Jr., for oral argument.

No. 2586 ..... *December 17, 1943*
Denied motion of W. R. Grace & Co. to defer oral argument re alteration, amendment, and modification of certificate of Pan American-Grace Airways, Inc., to provide for a route terminal in the United States.

No. 2587 ..... *December 17, 1943*
Approved Agreement, contract CAB 270, by and between Braniff Airways, Inc., and Pan American Airways, Inc., relating to the furnishing of certain aircraft air-conditioning services.

No. 2588 ..... *December 17, 1943*
Approved Agreement, contract CAB 271, by and between Braniff Airways, Inc., and Chicago & Southern Air Lines, Inc., relating to the furnishing of certain aircraft air-conditioning services.

No. 2589 ..... *December 20, 1943*
Dismissed petition of The American Newspaper Publishers Association for leave to intervene as amicus curiae re compensation for the transportation of mail by Chicago & Southern Air Lines, Inc., over routes 8 and 53.

No. 2590 ..... *December 20, 1943*
Enlarged scope of reconsideration and permitted inclusion of additional evidence re petition of Pan American Airways Co. (of Nevada) (now, by merger, Pan American Airways, Inc.) for an order fixing and determining the rates of compensation for the transportation of mail over the route between San Francisco, Calif., and Auckland, New Zealand; and between San Francisco and Hong Kong.

No. 2591 ..... *December 20, 1943*
Approved Agreement, CAB 254, by and between certain airlines relating to the publication by American Airlines, Inc., on behalf of itself and the participating carriers of American Airlines, Inc., Local and Joint Passenger Tariff MEX. No. 2, CAB No. 6.

No. 2592 ..... *December 20, 1943*
Revoked student pilot certificate held by John W. Morris for violation of the Civil Air Regulations.

No. 2593 ..... *December 20, 1943*
Temporarily suspended student pilot certificate held by Raymond Brown-Sindy for violation of the Civil Air Regulations.

No. 2594 ..... *December 31, 1943*
Suspended air agency certificates held by Horn's Flying School, Inc., for violation of the Civil Air Regulations (opinion and order).

No. 2595 ..... *December 31, 1943*
Revoked mechanic certificate held by Aubrey Patterson, Jr., for violation of the Civil Air Regulations (opinion and order).

No. 2596 ..... *December 20, 1943*
Temporarily suspended commercial pilot certificate and revoked flight instructor rating held by George A. Mumper for certain violations of the Civil Air Regulations.

No. 2597 ..... *December 16, 1943*
Denied petition of Eastern Air Lines, Inc., for reconsideration and reargument of Order 2494.

No. 2598 ..... *December 21, 1943*
Approved Agreement, contract CAB 266, by and between Pan American Airways, Inc., and Panair do Brasil, S. A., relating to the furnishing of certain facilities and services by Panair do Brasil, S. A., to Pan American Airways, Inc.

No. 2599 ..... *December 22, 1943*
Denied request for modification of Board order 609–653 which revoked commercial pilot certificate held by Victor Fite.

No. 2600 ..... *December 22, 1943*
Revoked student pilot certificate held by Arthur E. McFarland for certain violations of the Civil Air Regulations.

No. 2601 ..... *December 22, 1943*
Authorized All American Aviation, Inc., American Airlines, Inc., Eastern Air Lines, Inc., Transcontinental & Western Air, Inc., and United Air Lines Transport Corporation to suspend service temporarily at Philadelphia, Pa. (effective December 23, 1943).

No. 2602 ..... *December 23, 1943*
Fixed the rate of compensation for the transportation of mail by Chicago & Southern Air Lines, Inc., over routes 8 and 53 (opinion and order).

No. 2603 ..... *December 24, 1943*
Approved amendment to Agreement (contract CAB 189) filed by and between certain air lines relating to advertising practices.

No. 2604 ..... *December 27, 1943*
Consolidated and assigned for public hearing applications of National Airlines, Inc., and Eastern Air Lines, Inc., for permanent or temporary certificates.

No. 2605 ..... *December 27, 1943*
Temporarily suspended student pilot certificate held by William J. O'Neill for violation of the Civil Air Regulations.

No. 2606 ..... *December 27, 1943*
Revoked student pilot certificate held by Walter M. Zeiss for violation of the Civil Air Regulations.

No. 2607 ..... *November 5, 1943*
Amended certificate which authorized Pan American Airways, Inc., to engage in air transportation between various points in Latin America (opinion and order).

No. 2608 ..... *December 28, 1943*
Consolidated applications of certain airlines for certificates authorizing additional air service in Mexico, Central and South America, and the Caribbean with the proceeding covered by order 2567.

No. 2609 ..... *December 29, 1943*
Temporarily exempted Eastern Air Lines, Inc., from the provisions of its certificate for route 5 insofar as it would otherwise prevent Eastern from serving Winston-Salem and Greensboro on the same flight (effective January 1, 1944).

No. 2610 ..... *December 30, 1943*
Amended order 2419 so as to permit Jesse A. Blevans, holder of commercial pilot certificate, to pilot aircraft for and under the direction of North American Aviation, Inc., of Kansas.

No. 2611 ..... *December 31, 1943*
Denied Pan-Atlantic Steamship Corporation permission to intervene re applications for certificates authorizing additional air service in Mexico, Central and South America, and the Caribbean.

Regulations

Part 97–0 ... *Effective December 10, 1943*

Sec.

97.10 Initiation of proceedings.
97.11 Filing of complaint.
97.12 Service of the complaint.
97.13 Answer.
97.14 Requests for hearing.
97.15 Notice of hearing.
97.16 Submission without hearing or appearance.
97.17 Amendment of pleadings.
97.18 Depositions.
97.19 Examiner's report—Exceptions—Oral argument.
97.20 Limitation of actions.

97.10 Initiation of proceedings. A proceeding may be initiated by the Administrator of Civil Aeronautics by filing with the Board a complaint which shall be complete in itself so as fully to set forth the alleged violations of the Civil Air Regulations and other acts complained of. The complaint shall pray that the Board shall either suspend or revoke the respondent's certificate.

97.11 Filing of complaint. An original and nine copies of the complaint, either printed or typewritten, shall be filed with the Board.

97.12 Service of the complaint. When a complaint is filed, as prescribed in § 97.11, the General Counsel's Office of the Civil Aeronautics Board shall send a copy thereof, by registered mail, return receipt requested, to the respondent, together with a copy of these rules of practice. The complaint will be deemed served upon the respondent on the date specified on the post office return receipt.

97.13 Answer. After service upon him of the complaint, the respondent shall have ten days within which to answer in writing the charges set forth therein. Such answer shall be deemed filed as of the date of mailing to the Civil Aeronautics Board. Failure to answer any of the charges within the prescribed 10-day period shall be deemed an admission of the charges not answered. Upon good cause shown, the examiner to whom the case is assigned or the Chief of the Safety Section shall grant additional time within which to answer.

97.14 Requests for hearing. An appropriate form for requesting or waiving hearing shall be sent respondent with the copy of the complaint. Respondent shall have 10 days from the date of service of the complaint upon him in which to request a hearing. Failure to make such request within the prescribed time shall be deemed a waiver of respondent's right to hearing. Upon good cause shown, the examiner to whom the case is assigned or the Chief of the Safety Section shall grant additional time within which to request a hearing.

97.15 Notice of hearing. When a hearing has been requested, the General Counsel's Office of the Civil Aeronautics Board shall give the respondent adequate notice of the date and place where such hearing will be held.

97.16 Submission without hearing or appearance. Where hearing has been waived by respondent, the Board shall make its decision on the basis of whatever data is submitted to it by the complainant and the respondent.

97.17 Amendment of pleadings. Either party to the proceeding may amend his pleadings, as a matter of course, by filing with the Board at any time more than 15 days prior to the date of hearing three copies of the pleadings, as amended. After that time amendment shall be allowed at the discretion of the Board or its designated examiner.

(See Regulations, page 15)

DOMESTIC AIR-CARRIER STATISTICS

Operations for October 1943

Operator	Routes operated	Revenue miles flown	Revenue passengers carried [1]	Revenue passenger miles flown	Express carried (pounds)	Express pound-miles flown	Passenger seat-miles flown	Revenue passenger load-factor (percent)
All American Aviation, Inc.	Pittsburgh-Jamestown, Huntington, Williamsport, Philadelphia, via Harrisburg.	83,851	0	0	13,972	1,892,214	0	.....
American Airlines, Inc.	Dallas-Los Angeles	657,697	14,223	12,116,791	160,764	157,216,616	12,672,385	95.62
	New York-Chicago	400,503	18,025	6,520,105	699,031	295,561,123	7,204,788	90.50
	Boston-New York	95,180	9,544	1,670,980	261,260	42,687,129	1,890,189	88.40
	Boston-Cleveland	17,805	1,771	262,382	45,554	8,506,456	353,382	74.25
	Cleveland-Nashville	60,269	5,028	1,079,486	97,058	21,234,931	1,239,650	87.08
	New York-Fort Worth	620,265	16,730	9,973,712	288,882	152,506,350	11,130,469	89.61
	Washington-Chicago	167,495	6,460	2,593,728	150,797	66,385,846	2,909,190	89.16
	Chicago-Fort Worth	112,106	4,097	1,934,193	94,496	58,099,816	2,110,434	91.65
	Buffalo-Toronto	3,496	613	46,588	1,905	144,780	73,188	63.66
	El Paso or Fort Worth-Mexico City	135,316	2,212	2,095,865	22,654	13,433,640	2,498,148	83.90
	Total	2,270,132	78,703	38,293,830	1,822,401	815,776,687	42,081,823	91.00
Braniff Airways, Inc.	Chicago-Dallas	218,656	6,904	3,911,313	74,266	45,951,303	4,063,356	96.26
	Denver-Brownsville	155,414	9,355	2,651,361	33,251	9,208,613	2,916,046	90.92
	San Antonio-Laredo	8,250	570	85,500	313	43,507	168,000	50.89
	Total	382,320	16,829	6,648,174	107,830	55,203,423	7,147,402	93.02
Chicago & Southern Air Lines, Inc.	Chicago-New Orleans	170,644	7,136	2,974,979	79,328	33,498,337	3,223,356	92.29
	Memphis-Houston	33,050	1,622	548,540	9,897	4,331,296	632,212	86.77
	Total	203,694	8,758	3,523,519	89,225	37,829,633	3,855,568	91.39
Continental Air Lines, Inc.	Denver-El Paso	100,224	3,282	1,032,302	5,802	2,344,436	1,151,721	89.63
	Pueblo-Tulsa	39,833	1,657	365,615	2,610	546,749	433,793	84.28
	Total	140,057	4,939	1,397,917	8,412	2,891,185	1,585,514	88.17
Delta Air Corporation	Charleston and Savannah-Fort Worth	201,345	8,770	3,610,213	37,477	16,913,976	4,183,160	86.30
	Atlanta-Cincinnati	46,732	2,809	916,200	24,938	7,789,428	963,436	95.10
	Total	248,077	11,579	4,526,413	62,415	24,703,404	5,146,596	87.95
Eastern Air Lines, Inc.	New York-San Antonio	430,052	13,991	7,876,043	137,498	66,171,205	8,658,440	90.96
	New York-Miami	519,251	13,861	7,760,707	176,296	128,369,349	8,587,149	90.38
	Chicago-Jacksonville	175,805	7,901	3,256,981	82,061	34,293,785	3,480,156	93.59
	Atlanta-Tampa	25,740	1,322	464,289	9,984	3,508,375	532,337	87.22
	Total	1,150,848	37,075	19,358,020	405,839	232,342,714	21,258,082	91.06
Inland Air Lines, Inc.	Denver-Great Falls	47,418	1,296	390,073	1,767	294,895	546,445	71.38
	Cheyenne-Huron	29,412	0	0	126	34,684	0	.....
	Total	76,830	1,296	390,073	1,893	329,579	546,445	71.38
Mid-Continent Airlines, Inc.	Minneapolis-Tulsa	88,053	3,194	864,979	15,622	4,354,957	1,141,278	75.79
	Minneapolis-Des Moines, St. Louis, and Kansas City	76,572	1,946	554,295	7,699	2,172,573	992,546	55.85
	Total	164,625	5,140	1,419,274	23,321	6,527,530	2,133,824	66.51
National Airlines, Inc.	Jacksonville-Miami	77,647	3,821	940,790	11,343	2,617,998	1,086,435	86.59
	Jacksonville-New Orleans	129,004	4,579	1,595,869	21,220	7,865,234	1,796,027	88.86
	Total	206,651	8,400	2,536,659	32,563	10,483,232	2,882,462	88.00
Northeast Airlines, Inc.	Boston-Presque Isle and Moncton	61,565	3,291	838,850	18,151	3,725,052	1,292,865	64.88
Northwest Airlines, Inc.	Chicago-Seattle	462,730	13,151	7,064,978	146,709	96,852,414	8,296,234	85.16
	Minneapolis-Duluth	7,722	0	0	849	121,407	0	.....
	Total	470,452	13,151	7,064,978	147,558	96,973,821	8,296,234	85.16
Pennsylvania-Central Airlines Corp.	Norfolk-Detroit	228,653	19,176	3,945,883	355,567	61,568,923	4,754,924	82.99
	Detroit-Milwaukee	15,860	1,738	279,838	26,963	4,233,440	333,060	84.02
	Pittsburgh-Buffalo	12,448	983	193,822	16,344	3,140,610	261,408	74.15
	Pittsbugh-Birmingham	38,646	1,683	580,850	6,204	2,449,174	811,566	71.57
	Total	295,607	23,580	5,000,393	405,078	71,392,147	6,160,958	81.16
Transcontinental & Western Air, Inc.	New York-Los Angeles	1,055,283	24,986	17,174,345	595,733	382,037,351	18,409,051	93.29
	Dayton-Chicago	31,094	2,178	510,403	83,749	18,304,068	579,975	88.00
	Boulder City-San Francisco	55,580	1,841	991,616	19,324	10,350,485	1,063,174	93.27
	Kansas City-Pittsburgh via Chicago	282,730	8,384	4,502,508	195,839	96,545,309	4,785,069	94.09
	St. Louis-Detroit via Cincinnati and Dayton	66,562	4,708	1,087,925	68,241	12,308,243	1,327,386	81.96
	Washington-Dayton via Columbus	45,390	1,987	680,255	39,113	13,540,604	834,353	81.53
	Total	1,536,639	44,084	24,947,052	1,001,999	533,086,060	26,999,008	92.40
United Air Lines Transport Corp.	New York-San Francisco	1,452,965	24,274	23,290,046	757,873	593,652,683	24,702,636	94.28
	Salt Lake-Seattle	99,295	3,306	2,032,639	28,585	15,429,211	2,245,022	90.54
	Seattle-San Diego	405,646	19,262	7,682,812	143,453	57,338,155	8,114,742	94.68
	Seattle-Vancouver	15,104	1,938	246,954	4,085	517,849	313,823	78.69
	Toledo-Washington	47,460	1,284	898,201	16,266	6,394,886	953,439	94.21
	Total	2,020,470	50,064	34,150,652	950,262	673,332,784	36,329,662	94.00

See footnote at end of table.

DOMESTIC AIR-CARRIER STATISTICS—Continued

Operations for October 1943—Continued

Operator	Routes operated	Revenue miles flown	Revenue passengers carried [1]	Revenue passenger miles flown	Express carried (pounds)	Express pound-miles flown	Passenger seat-miles flown	Revenue passenger load-factor (percent)
Western Air Lines, Inc.	San Diego-Salt Lake City	157,909	6,670	2,801,044	78,719	39,081,842	3,182,238	88.02
	Salt Lake City-Great Falls	32,052	968	371,217	1,300	473,167	446,028	83.23
	Great Falls-Lethbridge	8,764	339	47,144	351	55,646	110,039	42.84
	Total	198,725	7,977	3,219,405	80,370	39,610,655	3,738,305	86.12
	Grand total	**9,510,543**	**314,866**	**153,315,209**	**5,171,289**	**2,606,100,120**	**169,454,748**	**90.48**

[1] Where a company operates more than one route the passengers carried may be duplicated between routes.
Passengers carried (total revenue and nonrevenue) 322,099. Passenger miles flown (total revenue and nonrevenue) 155,825,941.

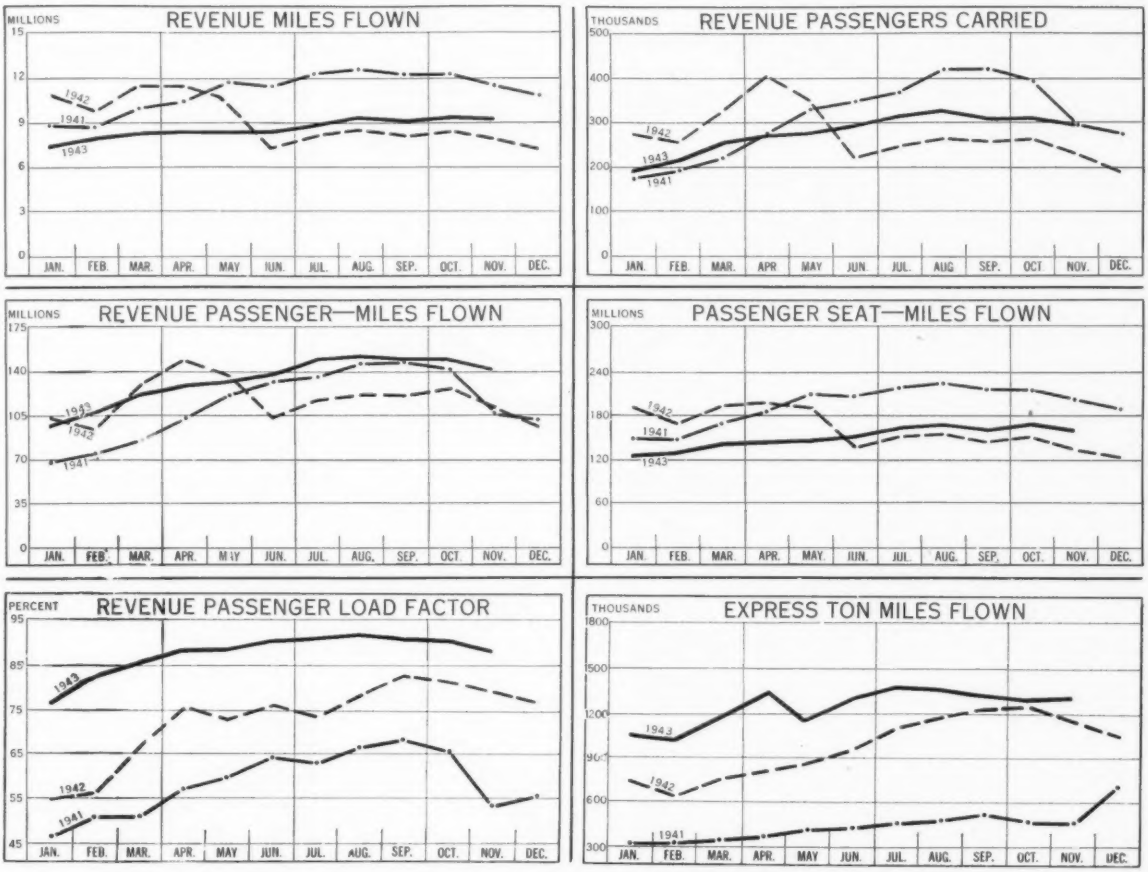
Operations for the First Ten Months of 1943 as Compared With the Same Period of 1942

Operator	Revenue miles flown January–October		Revenue passengers carried January–October		Revenue passenger miles flown January–October		Express carried (pounds) January–October	
	1943	1942	1943	1942	1943	1942	1943	1942
All American Aviation, Inc.	856,745	706,594	0	0	0	0	127,724	92,795
American Airlines, Inc.	21,931,138	23,800,518	773,687	878,814	365,603,137	343,917,594	17,165,421	9,461,482
Braniff Airways, Inc.	3,332,996	3,742,455	141,755	128,448	54,691,524	42,510,205	1,166,389	853,041
Catalina Air Transport	0	41,924	0	8,684	0	260,520	0	64,088
Chicago & Southern Air Lines, Inc.	1,835,459	1,885,179	73,919	63,642	29,551,091	24,119,224	719,437	562,491
Continental Air Lines, Inc.	1,287,093	1,402,154	44,228	31,170	12,536,358	8,279,069	99,355	82,500
Delta Air Corporation	1,876,517	2,071,396	93,118	92,258	34,751,279	27,921,431	492,007	237,699
Eastern Air Lines, Inc.	11,002,303	14,207,088	339,217	426,052	179,069,481	188,284,961	3,666,257	3,333,880
Inland Air Lines, Inc.	701,519	872,901	10,292	9,953	3,327,957	2,793,553	21,275	34,090
Mid-Continental Airlines, Inc.	1,164,927	1,357,207	29,792	24,532	8,246,401	6,644,609	146,009	97,013
National Airlines, Inc.	1,532,413	1,292,689	60,758	45,538	18,343,910	12,613,246	274,868	184,918
Northeast Airlines, Inc.	576,225	697,279	29,951	23,204	7,474,109	4,635,661	94,499	75,159
Northwest Airlines, Inc.	3,576,826	4,118,257	97,940	99,123	50,534,946	45,762,493	1,266,404	934,722
Pennsylvania-Central Airlines Corporation	2,511,867	3,706,511	199,621	236,062	42,599,815	48,963,539	3,549,553	1,993,549
Transcontinental & Western Air, Inc.	13,407,530	14,217,710	367,944	347,098	201,687,225	171,488,661	8,779,740	5,704,318
United Air Lines Transport Corporation	17,887,441	18,871,099	451,427	443,596	294,032,931	246,752,334	8,584,742	7,679,320
Western Air Lines, Inc.	1,661,447	2,043,599	66,563	63,928	26,431,867	20,860,678	787,868	1,103,056
Total	85,142,356	95,034,560	2,780,212	2,922,102	1,328,882,031	1,195,807,778	46,941,458	32,494,121
Index (1942=100)	89.59	100.00	95.14	100.00	111.13	100.00	144.46	100.00

Operator	Express pound miles flown January–October		Passenger seat-miles flown January–October		Revenue passenger load factor (percent) January–October	
	1943	1942	1943	1942	1943	1942
All American Aviation, Inc.	17,556,819	9,926,144	0	0		
American Airlines, Inc.	8,028,471,995	4,749,577,129	414,593,513	465,424,016	85.77	73.89
Braniff Airways, Inc.	589,865,117	318,120,183	59,600,573	65,067,530	84.05	65.33
Catalina Air Transport	0	2,011,530	0	379,320		68.68
Chicago & Southern Air Lines, Inc.	312,992,684	224,955,905	35,191,506	39,468,869	83.97	61.11
Continental Air Lines, Inc.	34,989,587	24,489,820	14,427,890	14,484,990	86.89	57.16
Delta Air Corporation	189,523,505	87,779,182	39,229,349	38,618,129	88.58	72.30
Eastern Air Lines, Inc.	2,252,349,462	2,024,487,426	205,755,335	273,373,639	87.03	68.87
Inland Air Lines, Inc.	5,063,658	6,357,590	5,057,410	8,087,970	65.80	34.54
Mid-Continental Airlines, Inc.	35,366,813	23,136,267	13,062,060	14,892,036	63.13	44.62
National Airlines, Inc.	79,787,525	50,070,430	21,340,195	17,536,102	85.96	71.93
Northeast Airlines, Inc.	19,331,350	19,647,671	12,092,972	13,267,303	61.81	34.94
Northwest Airlines, Inc.	834,272,164	711,379,664	60,275,902	70,665,932	83.84	64.76
Pennsylvania-Central Airlines Corporation	641,253,435	398,354,448	52,197,207	75,051,300	81.61	65.24
Transcontinental & Western Air, Inc.	4,976,794,380	3,717,914,206	225,448,658	245,738,982	89.46	69.78
United Air Lines Transport Corporation	6,486,180,963	6,174,841,907	320,341,546	303,203,806	91.79	81.38
Western Air Lines, Inc.	357,923,653	494,284,517	30,917,120	34,396,655	85.49	66.65
Total	24,861,723,110	19,037,334,019	1,509,531,326	1,679,656,579	88.03	71.19
Index (1942=100)	130.61	100.00	89.87	100.00	123.66	100.00

	January	February	March	April	May	June	July	August	September	October	Total
Passengers carried (total revenue and nonrevenue)	208,380	233,049	265,175	280,913	282,103	297,760	320,096	338,059	321,616	322,099	2,869,250
Passenger miles flown (total revenue and nonrevenue)	101,410,602	110,982,551	124,256,467	132,984,531	133,266,615	140,745,710	150,013,387	156,873,457	153,980,314	155,825,941	1,360,339,575

Comparative Charts of Domestic Operations for 1941, 1942, and the First 11 Months of 1943



CAA Develops Devices for Testing Pilots' Aptitude

A new pilot-testing device which combines a recording on magnetized wire of the examiner's spoken observations with a continuous film of dial action on the instrument panel furnishes for the first time an objective method of verifying a student pilot's ability.

The device is now being used at five Midwestern universities instructing pilots for the armed services under CAA War Training Service contracts. The General Inspection Division of the CAA, charged with examining all applicants for civil pilot certificates, in cooperating in the study.

Development and operation of the photo-recording apparatus was by the CAA and the National Research Council's committee on selection and training of pilots, of which Dr. Morris S. Viteles is chairman. Funds are provided by the CAA Research Division, directed by Dr. Dean R. Brimhall.

The CAA research program first undertook to study scientifically what goes on in the cockpit in 1941, when the conversations of students and instructors were transmitted by radio from plane to ground, and there recorded on discs. Study of the transcriptions at Purdue University by Dr. E. Lowell Kelly, under a grant from the National Research Council with funds provided by the CAA, revealed wide variations in instructors' vocabularies and methods and resulted in a "patter book" and outline of basic maneuvers now used by the CAA War Training Service, and with some variations, by the Navy.

Special Equipment Developed

This technique was not altogether satisfactory, however, and when an apparatus for recording on a spool of wire was produced by a commercial concern, the CAA, seeing that this could eliminate vibration and weight problems, requested manufacture of a light-weight version for recording right in the airplane.

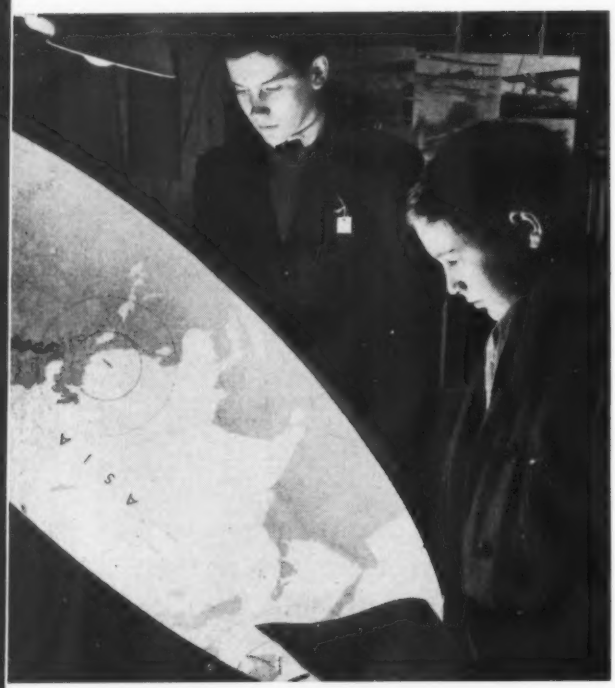
The new type of recorder proved so valuable, however, that the first output was rushed overseas to get on-the-spot reports during bombing missions.

In the meantime, the CAA sponsored researches at the University of Pennsylvania on camera equipment to "shoot" instrument panel dials, including a special gadget which showed movements of the ailerons, rudders, and elevators. The camera set-up is also designed to photograph the student's manual and pedal operation.

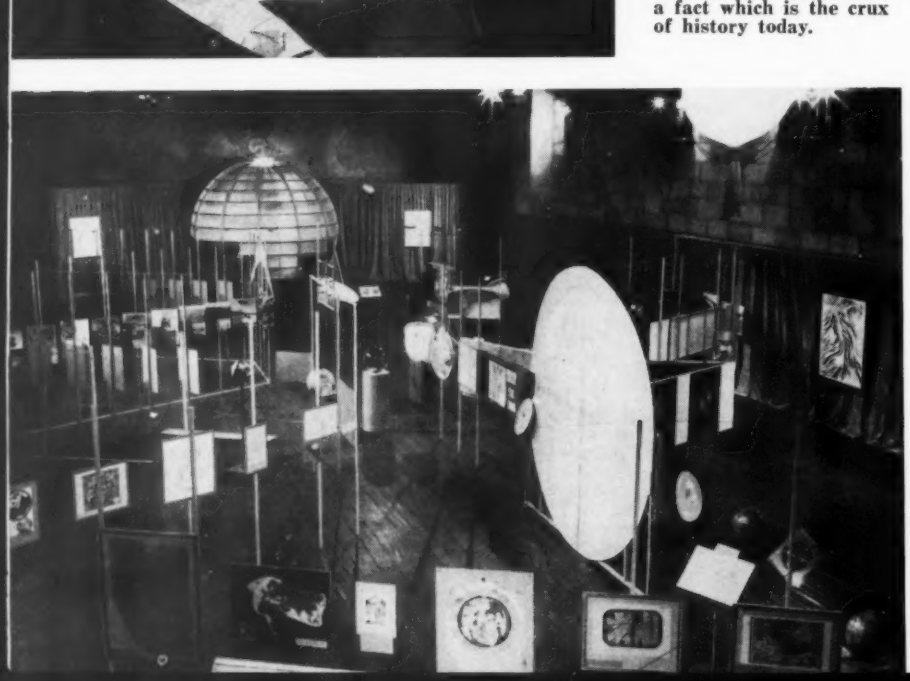
When the magnetic wire recorders became available to the CAA, they were combined with the photographic equipment, and "the laboratory," in the words of Dr. Brimhall, "was put into the cockpit." The two types of observations are now being studied to determine possible variations between examiners' subjective impressions of student performance and the objective photographic record of the operation of the airplane. Goals are to assist instructor and examiners in improving their flight-test methods and to provide impartial evidence in case of appeals.

Weather Booklet

A pamphlet entitled "Normal Weather for the United States," containing 36 pages with illustrations is now available from the Superintendent of Documents, Government Printing Office, Washington 25, D. C., for 10 cents.



How man has drawn his world is graphically presented (above) in a portion of the first section of the exhibition which surveys the progress of map-making from the earliest known map (2400 B. C.) to the latest polar projections showing the air routes of the near future. To aid in visualizing air-strategy novel "outside-in" hemispheres (left) were presented in Sky-Roads. The unique style of presentation is shown below. A 15-foot "outside-in" globe of the world can be seen in the left background of the photograph. Land areas depicted on the inside of the globe show the spectator how three-quarters of the earth's land is in the northern hemisphere, and the extraordinary proximity around the North Pole of the populous and powerful nations, within easy flying distance of one another—a fact which is the crux of history today.



TO assist the layman to fit himself for the coming air age, the CAA collaborated with the Museum of Modern Art in a exhibition which has just finished a 4-month showing in the Department of Commerce Auditorium in Washington and will tour the country, showing the average man's concept of his world present and future strategy; the nature of the stratosphere presented as a deep-air mammal; progress in the field of aviation, and its transition to peace. Other sections are devoted to flying for the private pilot and our system of federal airways which

Pausing for a moment a young Navy officer and lady (above) view the display on flying in the post-war age which anticipates wings for millions both as passengers and pilots, and traces the part played by the CAA in adding to the pilot stock-pile through its training programs. One of the most graphic presentations (right) shows how much distortion is to be found on a Mercator projection map by comparing its representation of Greenland to the actual area of the country on a globe. The exhibit presents the theory that the Germans' lack of global concept is the basic flaw in their strategy. They planned their conquest on Mercator maps and thus relegated the United States to the fringe of their world. Morrison McKenney, age 12, and his father typify the interest the exhibit held for both young and old.

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A collaboration with New York
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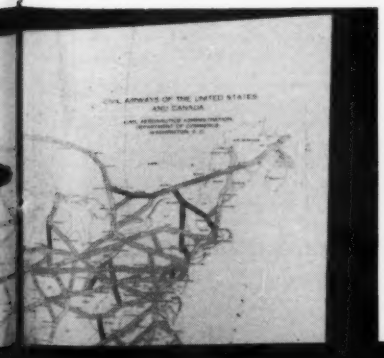
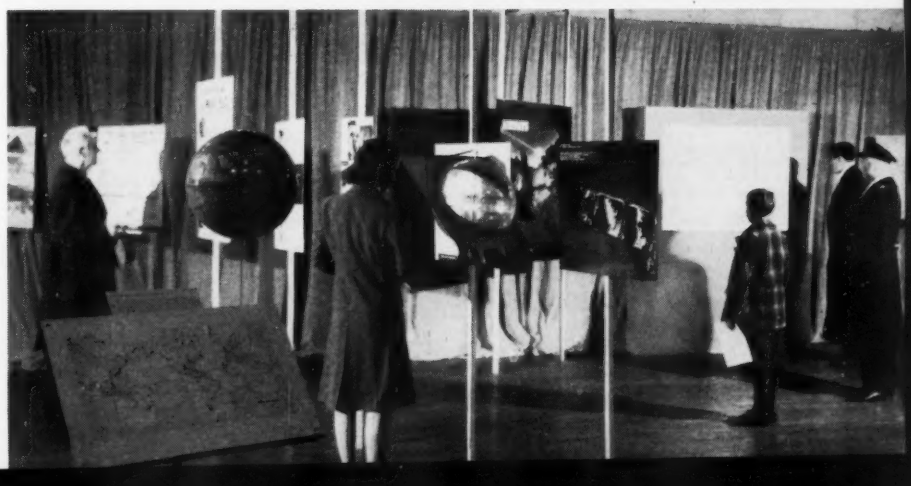
CAA Photos.





Progress of Civil Aeronautics in the United States

Data Compiled by Information and Statistics Service as of Dec. 31 of Each Year

Domestic Air-Carrier Operations [1]

	1936	1937	1938	1939	1940	1941	1942
Operators (number of)	21	17	18	17	16	17	16
Airplanes (in service and reserve)	272	282	253	265	358	359	179
Average number of passenger seats per plane	10.67	12.53	13.63	14.63	16.52	17.41	17.60
Average speed	149	153	153	153	155	159	159
Air-carrier route mileage (unduplicated)	28,874	31,084	35,492	35,213	41,054	47,703	36,442
Express service	28,874	31,084	34,945	35,213	41,054	47,703	36,442
Mail service	27,533	31,029	34,272	34,519	4 ,461	45,454	35,641
Passenger service	28,874	31,084	35,492	35,213	41,054	47,703	35,168
Miles flown:							
Daily average	174,732	181,018	190,873	226,223	298,083	36,446	301,652
Revenue miles	63,777,226	66,971,507	69,668,827	82,571,523	108,800,436	133,022,679	110,102,860
Mail miles	39,869,049	42,173,517	49,560,645	55,357,034	65,373,449	82,338,434	89,832,334
Passenger traffic:							
Passengers carried	1,020,931	1,102,707	1,343,427	1,876,051	2,959,480	4,060,545	3,551,833
Revenue [2]	911,148	958,510	1,176,858	1,717,090	2,727,820	3,768,892	3,349,134
Nonrevenue	109,783	144,197	166,569	158,961	231,660	291,653	202,699
Passenger miles flown (1 passenger carried 1 mile):	435,740,253	476,603,165	557,719,268	749,787,096	1,147,444,948	1,491,734,671	1,481,976,329
Revenue	388,242,120	407,295,893	476,402,280	677,672,955	1,041,173,558	1,369,584,231	1,398,042,146
Nonrevenue	47,498,133	69,307,272	81,316,988	72,114,141	106,271,390	122,150,440	83,934,183
Passenger seat miles flown	680,708,230	828,188,184	948,421,755	1,207,869,577	1,797,329,431	2,316,205,507	1,937,672,755
Passenger load factor (percent):							
Revenue	57.04	49.18	50.18	56.10	57.93	59.13	72.15
Revenue and nonrevenue	64.01	57.55	58.74	62.08	63.84	64.40	76.11
Passenger fare per mile	$0.057	$0.056	$0.057	$0.051	$0.0506	$0.0503	$0.0527
Mail:							
Ton miles [3]	5,741,436	6,698,239	7,422,860	8,584,891	10,035,638	12,900,405	21,066,627
Express and freight:							
Ton miles	1,860,809	2,156,070	2,173,706	2,705,614	3,469,485	5,242,529	11,717,605
Pounds [3]	6,928,777	7,127,369	7,335,967	9,514,229	12,506,176	19,299,671	40,101,657
Gasoline and oil (consumed):							
Gasoline	30,392,923	33,606,770	37,218,743	46,554,856	64,906,284	80,757,892	68,030,246
Oil	675,655	629,127	644,768	726,507	1,087,208	1,258,983	989,103
Trips:							
Percentage completed of those started	95.60	95.41	95.37	95.30	96.02	95.69	95.17
Percentage started of those scheduled	94.22	93.82	94.88	97.16	94.85	95.35	93.63
Percentage completed of those scheduled	90.08	89.51	90.48	92.59	91.07	91.24	89.29
Average length of passenger trip (miles)	427	432	415	400	388	367	[4] 454
Personnel employed	7,045	7,529	8,955	10,509	15,800	18,984	*26,447
Pilots	574	629	671	691	893	1,065	974
Copilots	468	420	456	694	1,017	1,119	1,415
Dispatchers			185	179	187	215	245
Mechanics and riggers	2,152	2,206	2,397	2,779	3,995	4,333	7,770
Other hangar and field personnel	543	651	706	863	1,861	2,185	3,357
Stewards	46	45	48	70	114	130	90
Stewardesses	287	294	310	460	796	894	698
Office employees	2,975	3,284	3,710	4,548	5,815	7,759	9,883
All others			472	225	1,122	1,284	2,015
Accidents:							
Number of accidents	65	42	33	33	42	33	31
Miles flown per accident	981,189	1,573,131	2,111,177	2,502,167	2,590,487	4,030,990	3,551,705
Number of fatal accidents	8	5	5	2	3	4	5
Miles flown per fatal accident	79,972,153	13,214,301	13,933,765	41,285,762	36,266,812	33,255,670	22,020,572
Fatal accidents per 1,000,000 miles flown	0.13	0.08	0.07	0.02	0.03	0.03	0.05
Pilot fatalities	8	4	3	1	3	3	5
Miles flown per pilot fatality	7,972,153	16,517,877	23,222,942	82,571,523	36,266,812	44,346,893	22,020,572
Copilot fatalities	6	5	4	1	3	3	5
Crew fatalities (other than pilot and copilot)	3	3	3	1	4	3	6
Passenger fatalities	44	40	25	9	35	35	55
Passenger miles flown per passenger fatality	9,903,188	11,915,079	22,308,771	83,309,677	32,784,141	46,620,991	26,945,024
Passenger fatalities per 100,000,000 passenger miles flown	10.10	8.39	4.48	1.20	3.05	2.35	3.71
Ground crew and third party fatalities	0	0	0	0	0	0	0
Total fatalities	61	52	35	12	45	44	71
Fatalities per 1,000,000 miles flown	0.96	0.79	0.50	0.15	0.41	0.33	0.64

International and Territorial Air-Carrier Operations [5]

	1936	1937	1938	1939	1940	1941	1942
Operators (number of)	7	7	8	8	8	7	7
Airplanes (in service and reserve)	108	104	92	74	82	94	75
Air-carrier route mileage (unduplicated)	32,913	32,901	37,775	44,896	53,025		
Express service	32,913	32,901	37,775	43,538	53,025		
Mail service	24,536	26,783	30,029	39,819	49,908		
Passenger service	32,913	32,901	37,775	44,896	53,025		
Miles flown:							
Daily average	20,368	23,640	23,366	23,026	29,281	43,060	55,864
Revenue miles	7,434,500	8,628,730	8,528,412	8,404,540	10,716,827	15,188,865	20,390,260
Mail miles	4,158,745	4,723,067	5,099,039	5,754,797	6,803,334	8,235,585	10,975,931

See footnotes at end of table.

International and Territorial Air-Carrier Operations—Continued

	1936	1937	1938	1939	1940	1941	1942
Passenger traffic:							
Passengers carried	108,834	139,955	144,686	168,970	225,798	320,065	392,146
Revenue				161,163	216,846	311,055	383,933
Nonrevenue				7,807	8,952	9,010	8,213
Passenger miles flown (1 passenger carried 1 mile)	45,078,586	58,255,487	60,110,655	85,041,146	117,719,111	185,214,555	268,252,356
Revenue				78,168,601	111,248,022	179,014,221	263,996,932
Nonrevenue				6,862,545	6,471,089	6,200,334	4,255,424
Mail:							
Pounds	328,295	426,261	484,712	675,422	1,045,376	1,637,361	3,355,505
Express and freight:							
Pounds	873,244	1,114,008	1,269,980	1,397,956	1,682,002	3,105,416	8,509,436
Gasoline and oil (consumed):							
Gasoline	6,760,898	7,817,614	8,091,449	9,382,279	9,628,645	12,201,504	17,652,754
Oil	197,917	215,443	185,102	194,689	200,599	*299,535	*348,039
Personnel employed	2,950	4,063	4,354	5,414	6,256	7,474	13,214
Pilots	121	126	149	145	153	217	377
Copilots	78	182	149	178	215	263	633
Dispatchers			2	4	5	5	33
Mechanics and riggers	722	1,074	1,018	1,227	1,414	2,056	3,649
Other hangar and field personnel	1,224	1,705	1,929	2,152	2,388	2,746	4,477
Stewards	57	81	93	103	124	184	382
Stewardesses				6	6	2	4
Office employees	748	895	1,014	1,596	1,922	1,951	3,473
All other				3	29	50	186
Accidents:							
Number of accidents	5	8	11	6	11	7	3
Miles flown per accident	1,486,900	1,078,591	775,310	1,400,757	974,257	2,169,838	6,767,533
Number of fatal accidents	2	1	3	1	0	1	0
Miles flown per fatal accident	3,717,250	8,628,730	2,842,804	8,404,540		15,188,865	
Fatal accidents per 1,000,000 flown miles	0.27	0.12	0.35	0.12		0.07	
Pilot fatalities	1	1	3	1	0	0	0
Miles flown per "captain" pilot fatality	7,434,500	8,628,730	2,842,804	8,404,540			
Copilot fatalities	1	1	3	1	0	0	0
Crew fatalities (other than "captain" pilot and copilot)	2	1	13	2	0	0	0
Passenger fatalities	2	11	7	10	0	2	0
Passenger miles flown per passenger fatality	22,539,293	5,295,953	8,587,236	8,503,115		92,607,278	
Passenger fatalities per 100,000,000 passenger miles flown	4.44	18.88	11.65	11.76		1.09	
Ground crew and third party fatalities	0	0	0	0	0	0	0
Total fatalities	6	14	26	14	0	2	0
Fatalities per 1,000,000 miles flown	0.81	1.62	3.05	1.66		0.13	

Domestic, International and Territorial Air-Carrier Operations (Total)

	1936	1937	1938	1939	1940	1941	1942
Operators (number of) [6]	25	21	23	22	22	21	23
Airplanes (in service and reserve)	380	386	345	339	440	453	254
Air-carrier route mileage (unduplicated)	61,787	63,985	73,267	80,109	94,079		
Express service	61,787	63,985	72,720	78,751	94,079		
Mail service	52,069	57,812	64,401	74,338	90,369		
Passenger service	61,787	63,985	73,267	80,109	94,079		
Miles flown:							
Daily average	194,568	204,658	214,239	249,249	326,550	406,059	357,516
Revenue miles	71,211,726	74,700,237	78,197,239	90,976,063	119,517,263	148,211,544	130,493,120
Mail miles	44,027,794	46,896,584	54,659,684	61,111,831	72,176,783	90,574,019	100,808,264
Passenger traffic:							
Passengers carried	1,129,765	1,242,662	1,488,113	2,045,021	3,185,278	4,380,610	3,943,979
Revenue [2]				1,878,253	2,944,666	4,079,947	3,733,067
Nonrevenue				166,768	240,612	300,663	210,912
Passenger miles flown (1 passenger carried 1 mile)	480,818,839	534,858,652	617,829,923	834,818,242	1,265,164,059	1,676,949,226	1,750,228,685
Revenue				755,841,556	1,152,421,580	1,548,598,452	1,662,039,078
Nonrevenue				78,976,686	112,742,479	128,350,774	88,189,607
Mail:							
Ton miles (domestic only) [3]	5,741,436	6,698,239	7,422,860	8,584,891	10,035,638	12,900,405	21,066,627
Pounds (international and territorial only)	328,295	426,261	484,712	675,422	1,045,376	1,637,361	3,355,505
Express and freight:							
Ton miles (domestic only)	1,860,809	2,156,070	2,173,706	2,705,614	3,469,485	5,242,529	11,717,605
Pounds [3]	7,832,021	8,241,377	8,605,947	10,912,255	14,188,178	22,315,987	48,611,093
Gasoline and oil (consumed):							
Gasoline	37,153,821	41,424,384	45,310,192	55,937,135	74,534,929	92,959,396	85,683,060
Oil	873,572	844,570	829,870	921,186	1,287,807	*1,558,518	*1,337,142
Personnel employed	9,995	11,592	13,309	15,923	22,056	26,458	*39,661
Pilot	695	755	820	836	1,046	1,282	1,351
Copilot	546	602	605	872	1,232	1,382	2,048
Dispatcher			187	183	192	220	278
Mechanics and ground crew	2,874	3,280	3,415	4,006	5,409	6,389	11,419
Other hangar and field personnel	1,767	2,356	2,635	3,015	4,249	4,931	7,834
Stewards	103	126	141	173	238	314	472
Stewardesses	287	294	310	466	802	896	702
Office employees	3,723	4,179	4,724	6,144	7,737	9,710	13,356
All other			472	228	1,151	1,334	2,201

See footnotes at end of table.

Domestic, International and Territorial Operations (Total)—Continued

	1936	1937	1938	1939	1940	1941	1942
Accidents:							
Number of accidents	70	50	44	39	53	40	34
Miles flown per accident	1,017,310	1,494,005	1,777,210	2,332,720	2,255,042	3,705,289	3,838,033
Number of fatal accidents	10	6	8	3	3	5	5
Miles flown per fatal accident	7,121,173	12,450,040	9,774,655	30,325,354	39,839,088	29,642,309	26,098,624
Fatal accidents per 1,000,000 miles flown	0.14	0.08	0.10	0.03	0.03	0.03	0.04
Pilot fatalities	9	5	6	2	3	3	5
Miles flown per "captain" pilot fatality	7,912,414	14,940,047	13,032,873	45,488,032	39,839,088	49,403,848	26,098,624
Copilot fatalities	7	6	7	2	3	3	5
Crew fatalities (other than "captain" pilot and copilot)	5	4	16	3	4	3	6
Passenger fatalities	46	51	32	19	35	37	55
Passenger miles flown per passenger fatality	10,452,583	10,487,425	19,307,185	43,937,802	36,147,545	45,322,952	31,822,340
Passenger fatalities per 100,000,000 passenger miles flown	9.57	9.54	5.18	2.28	2.77	2.21	3.14
Ground-crew-and third party fatalities	0	0	0	0	0	0	0
Total fatalities	67	66	61	26	45	46	71
Fatalities per 1,000,000 miles flown	0.94	0.88	0.78	0.29	0.38	0.31	0.54

Private Flying Operations (All Domestic)

	1936	1937	1933	1939	1940	1941	1942
Airplanes in operation (certificated and uncertificated)	8,849	10,446	10,718	13,217	17,253	24,124	22,329
Miles flown	93,320,375	103,196,355	129,359,095	177,868,157	264,000,000	346,303,400	
Passengers carried	1,466,058	1,580,412	1,575,151	1,594,086	1,600,000		
For hire	1,215,405	1,295,904	1,238,133	1,161,292	1,175,000		
Not for hire	250,653	284,508	337,018	432,794	425,000		
Gasoline and oil (consumed):							
Gasoline	10,451,496	10,618,240	10,201,053	16,394,335	22,400,000		
Oil	316,502	310,851	287,875	460,189	660,000		
Accidents:							
Number of accidents	1,698	1,917	1,882	2,175	3,446	4,312	3,176
Miles flown per accident	54,959	53,832	68,735	81,778	76,610	80,312	
Number of fatal accidents	159	185	172	194	208	217	141
Miles flown per fatal accident	586,921	557,818	752,088	916,846	1,269,231	1,595,868	
Pilot fatalities	130	152	141	161	183	190	133
Miles flown per pilot fatality	717,849	678,928	917,440	1,104,771	1,442,623	1,822,649	
Copilot or student fatalities	15	16	15	7	18	19	22
Crew fatalities (other than pilot and copilot)	6	2	1	4	3	3	6
Passenger fatalities	119	112	115	139	124	110	54
Ground crew and third party fatalities	2	1	3	3	2	3	3
Total fatalities	272	283	275	314	330	325	218

Certificates

	1936	1937	1938	1939	1940	1941	1943
Certificated aircraft:							
Airplanes	7,424	9,152	10,000	12,829	17,351	24,836	22,904
Glider	31	41	45	44	39	65	104
Certificated airmen:							
Pilots, airplane, total	15,952	17,681	22,983	31,264	63,113	100,787	110,510
Airline transport	842	1,064	1,159	1,197	1,431	1,587	2,177
Commercial	7,288	6,411	7,839	8,280	10,151	15,429	18,808
Private	7,822	10,206	13,985	21,787	51,531	83,771	89,525
Pilots, glider	138	161	172	170	138	160	211
Mechanics	8,738	9,314	9,884	10,296	11,177	14,047	18,097
Parachute riggers	393	362	397	425	444	618	1,004
Ground instructors	48	55	92	446	1,948	4,815	7,604
Student pilot certificates issued (yearly):							
Airplane	17,675	21,770	15,556	29,839	110,938	93,366	139,289
Glider	209	125	98	263	419	385	486

Production of Civil Aircraft for Domestic Consumption [8]

(Data obtained from aircraft registration certificates)

	1936	1937	1938	1939	1940	1941	1942
Aircraft production by engine horsepower:							
Total	1,637	2,289	1,823	3,715	6,785	6,844	
50 hp and under	772	1,393	1,350	1,686	490	7	
51–70 hp	109	44	23	1,349	4,529	4,303	
71–100 hp	122	183	61	311	935	1,805	
101–165 hp	171	193	149	119	211	206	
166–225 hp	75	47	16	9	318	309	
226–300 hp	214	199	122	86	37	15	
301–600 hp	109	142	54	76	72	31	
601–1,800 hp	65	88	48	78	137	118	
Unclassified	0	0	0	0	56	50	
Aircraft production by number of engines:							
Single-engine	1,526	2,163	1,770	3,613	6,562	6,629	
Multi-engine	111	126	53	102	167	165	
Unclassified	0	0	0	0	56	50	

See footnotes at end of table.

Airports and Landing Fields

	1936	1937	1938	1939	1940	1941	1942
Airports and landing fields:							
Total airports in operation	2,342	2,299	2,374	2,280	2,331	2,484	2,809
Commercial	774	727	760	801	860	930	1,069
Municipal	1,037	1,053	1,092	963	1,031	1,086	1,129
Intermediate CAA-lighted	284	278	265	266	289	283	273
Intermediate CAA-unlighted	12	5	2	0	0	0	0
Army, Navy, Marine Corps, National Guard, reserve, private and miscellaneous airports	235	236	255	250	151	185	338
Lighted, total	705	720	719	735	776	662	700
Airports of entry, regular	12	21	37	39	37	36	
Airports of entry, temporary	43	34	23	21	21	19	

Federal Airways System (Aids to Air Navigation)

	1936	1937	1938	1939	1940	1941	1942
Federal airways:							
Mileage	22,245	22,319	23,723	27,074	30,480	32,679	33,407
Mileage under construction at close of year	0	945	1,849	2,192	496	780	1,363
Communications:							
Total radio range stations	146	191	215	244	281	312	280
Radio range stations with scheduled broadcasts	80	83	87	89	104	111	105
Radio range stations with nonscheduled broadcasts	66	108	107	135	166	189	159
Radio range stations without voice			21	20	11	12	16
Radio marker beacons	57	55	48	48	42	48	40
Weather reporting airway and airport stations:							
Weather Bureau and CAA operated longline teletypewriter equipped	213	271	314	298	376	453	442
Traffic control stations teletypewriter equipped				114	129	139	130
Miles of weather reporting teletypewriter service	13,120	20,588	23,771	26,883	28,052	55,268	52,618
Miles of traffic control teletypewriter service				9,939	12,260	12,621	9,008
Weather Bureau—first order stations (does not include airport stations)	182	198	182	185	146	139	135
Airway lighting:							
Beacons:							
Revolving	1,677	1,717	1,753	1,875	2,045	2,110	2,080
Flashing	241	252	214	214	216	164	141
Beacons—privately owned and certified	410	466	530	650	720	752	1,041
Intermediate landing fields, lighted	284	278	271	274	289	279	267

*Estimated.

[1] Domestic air carriers are American companies operating within the United States.

[2] Totals shown for passengers and express carried are not unduplicated figures, as the same passengers and express may be counted for more than one route.

[3] The mail pound miles flown by Inter-Island Airways, Ltd., are included with the domestic mail pound miles as this company holds a domestic air mail contract. All other operations statistics for this carrier are included with foreign and territorial statistics.

[4] The increase in length of passenger trip is due, in part, to using the unduplicated count of passengers carried by the individual airlines as reported to the CAB.

[5] International and territorial carriers are American companies operating in United States Territories and in other countries. The operations do not include the operations of the following affiliated companies of Pan American Airways System: Cia Mexicana de Aviacion, S. A., Cia Nacional Cubana de Aviacion, and Panair do Brasil, which prior to 1936 were included with foreign and territorial statistics.

[6] In several cases the same carriers operated both domestic and foreign services.

[7] For the years 1936 through 1941 solo and limited commercial pilots are combined with private and commercial respectively (Civil Air Regulations, effective May 1, 1946, discontinued these classes of certificates).

[8] Does not include aircraft produced for the U. S. military services or those exported for military or civil use.

Hoosier Radio Range Now Guiding Planes To S. Atlantic Base

The radio range that once gave on-course signals to fliers passing over Evansville, Ind., is now guiding our planes into Ascension Island, pinpoint stopover halfway across the South Atlantic.

The range, formerly part of the CAA's 35,000-mile airway system, was installed on the rocky British island under the supervision of CAA Construction Engineer Ralph R. Gaebe, and CAA Radio Engineer Robert L. Hoffer.

CAA engineers have installed or serviced airways radio facilities for the armed forces at more than 125 foreign locations, in addition to Alaska and the Aleutians. In many cases this involved removal of ranges at less important locations in the United States.

Despite difficulties of terrain, at Ascension, Gaebe, acting as expert consultant to the Army Engineer Corps, completed the installation in about the time required for a job on the mainland.

AAF Officer Appreciates Aid Received At Airways Outpost

The CAA is in receipt of a letter from Lt. Col. James H. Isbell of the AAF thanking Leonard A. Beville, the chief aircraft communicator at Sinclair, Wyo., airport for the hospitality and helpfulness given three members of his command when they were forced to land there on two recent occasions.

The intermediate field at Sinclair is located in the Red Desert country approximately 4 miles from the town, which has a population of 727. In his letter, Colonel Isbell declared: "Today when a closer relationship must of necessity exist between the men in and out of uniform who are all engaged in working to the same end, it is deeply gratifying to find such a fine example of cooperation and cordiality as shown at your station."

Predicts Increases

(*Continued from page 1*)

civilians who trained for essential flying jobs such as instructors, or members of the Civil Air Patrol.

Airline activities increased, although by the beginning of 1943 the Army had requisitioned about half of the 359 planes in pre-war service. Through fuller loading and more intensive use of the remaining planes, revenue passenger miles rose from 1,398,024,146 in 1942 to 1,505,264,230 in 1943; air express from 40,102,000 pounds in 1942 to 61,366,000 in 1943, and mail-ton miles from 21,066,627 in 1942 to 37,638,833 in 1943.

Possibilities of extending airline service to many smaller cities were outlined by Stanton in testimony at hearings of the Civil Aeronautics Board. Declaring that the short-haul market "represents perhaps the largest chunk of travel business potentially available to our domestic airlines," Stanton pointed out that only 52 of the 122 cities of 25,000 to 50,000 population have direct air service, and only 58 of the 413 communities in the 10,000 to 25,000 population bracket.

STATUS OF AIR REGULATIONS

Regulations as of January 1, 1944

HOW TO OBTAIN PARTS, AMENDMENTS, AND MANUALS

THOSE PARTS AND MANUALS ON WHICH A PRICE IS LISTED IN THE TABULATION WHICH FOLLOWS ARE ON SALE AT THE GOVERNMENT PRINTING OFFICE (SHOWN AS GPO IN TABLE), AND ARE NOT AVAILABLE FOR FREE DISTRIBUTION FROM THE CAA.

The Government Printing Office is the official sales agency for all government publications and is separate and distinct from the CAA and the Department of Commerce. The rules of the Superintendent of Documents require that *remittances be made in advance* of shipment of publications, either by coupons, sold in sets of 20 for $1 and good until used, or by check or money order payable to the *Superintendent of Documents, Government Printing Office.* Currency is sent at sender's risk. Postage stamps, foreign money, and smooth coins are not acceptable. A discount of 25 percent is allowable to book dealers and quantity purchasers of 100 or more publications, on condition that the purchasers will adhere to the public sales price set by the Superintendent of Documents and that publications shall not be overprinted with any advertising matter.

Eventually, all Parts and Manuals will be placed on sale; meanwhile, those not yet on sale (carrying remark, "Order from CAA only") may be obtained without charge from the CAA upon demonstration of valid interest on the applicant's part.

The following tabulation carries in the right-hand column the numbers of all effective amendments to each Part and Manual issued subsequent to its publication. Parts and Manuals obtained from the CAA will include all effective amendments, but amendments for Parts and Manuals purchased from GPO must be requested separately from the CAA. When requesting amendments from the CAA, please be sure to state Part numbers for which they are desired.

ALL AMENDMENTS TO THE REGULATIONS, AND NOTICE OF NEW PARTS AND MANUALS ARE PRINTED IN THE CIVIL AERONAUTICS JOURNAL, AS RELEASED.

Bound volumes of the complete Civil Air Regulations are no longer available. Parts and amendments are punched for filing in standard three-ring binders.

For your guidance we have listed the Parts and Manuals applicable to the various airmen certificates issued.

Pilots:
Parts 01, 20, 60, 501, 503, and Manual 60.
Airline Transport Pilots:
Parts 01, 04, 21, 27, 40, 60, 61, 98, 501, 503, and Manuals 04 and 60.
Lighter-Than-Air Pilots:
Parts 01, 22, 60, 501, 503, and Manual 60.
Aircraft Mechanics:
Parts 01, 04, 15, 18, 24, 501, 503, section 60.32, and Manuals 04, 15, and 18.
Aircraft Engine Mechanics:
Parts 01, 04, 13, 14, 18, 24, 501, 503, and Manuals 04, 14, and 18.
Parachute Technicians:
Parts 15, 25, 54, 60, and Release 144.
Air-Traffic Control-Tower Operators:
Parts 26, 60, and Manual 60.
Aircraft Dispatchers:
Parts 27, 40, 60, 61, and Manual 60.
Ground Instructors (rating in Civil Air Regulations):
Parts 01, 20, 51, 60, 501, 503, and Manual 60.

PARTS CANCELED AND UNASSIGNED

Canceled Parts 00 and 03 now incorporated in Part 501; canceled Part 23 now incorporated in Part 51. Parts 90–96, inclusive, canceled. All other Part numbers not shown are unassigned.

Civil Air Regulations

Aircraft

Part No.	Title	Date	Remarks	Price	Effective Amendments
01	Airworthiness Certificates	10-15-42	On sale at GPO	$0.05	
02	Type and Production Certificates	3-1-41	On sale at GPO	.05	
04	Airplane Airworthiness	11-1-43	On sale at GPO	.15	
13	Aircraft Engine Airworthiness	8-1-41	On sale at GPO	.05	
14	Aircraft Propeller Airworthiness	7-15-42	On sale at GPO	.05	
15	Aircraft Equipment Airworthiness	11-15-40	In stock; order from CAA only		15-1, 15-2.
16	Aircraft Radio Equipment Airworthiness	2-13-41	On sale at GPO	.05	
18	Maintenance, Repair, and Alteration of Certificated Aircraft and of Aircraft Engines, Propellers, and Instruments.	9-1-42	On sale at GPO	.05	

Airmen

20	Pilot Certificates	9-1-42	On sale at GPO	$0.10	20-1, thru 20-6, Reg. Ser. 242, 247.
21	Airline Transport Pilot Rating	10-1-42	On sale at GPO	.05	21-1, thru 21-3, Reg. Ser. 278.
22	Lighter-Than-Air Pilot Certificates	10-15-42	On sale at GPO	.05	Reg. Ser. 247.
24	Mechanic Certificates	7-1-43	On sale at GPO	.05	
25	Parachute Technician Certificates	1-21-43	In stock; order from CAA only		25-1.
26	Air-Traffic Control-Tower Operator Certificates.	7-1-42	On sale at GPO	.05	26-1, 26-2.
27	Aircraft Dispatcher Certificates	10-1-43	On sale at GPO	.05	
29	Physical Standards for Airmen	6-1-42	On sale at GPO	.05	29-1.

Air Carriers

40	Air Carrier Operating Certification	11-1-42	On sale at GPO	$0.10	40-1, 40-2.

Air Agencies

50	Flying School Rating	11-1-40	On sale at GPO	$0.05	87, 113, 50-3, Reg. No. 216.[1]
51	Ground Instructor Rating	7-1-42	On sale at GPO	.05	
52	Repair Station Rating	10-1-42	On sale at GPO	.05	
53	Mechanic School Rating	8-1-42	On sale at GPO	.05	
54	Parachute Loft Certificates and Ratings	1-21-43	In stock; order from CAA only		

Air Navigation

60	Air-Traffic Rules	7-1-43	On sale at GPO	$0.10	60-1 thru 60-3.
61	Scheduled Air-Carrier Rules	10-15-42	Out of stock	.10	61-1 thru 61-14.
66	Foreign Air-Carrier Regulations	1-15-42	On sale at GPO	.05	

Miscellaneous

97	Rules of Practice Governing Suspension and Revocation Proceedings.	12-10-43	In stock; order from CAA only		
98	Definitions	10-15-42	On sale at GPO	$0.05	
99	Mode of Citation of Regulations	11-15-40	In stock; order from CAA only		

[1] No copies available. (Waiver of requirements.) Consult CAA inspector for specific provisions of this amendment.

Regulations of the Administrator

Part No.	Title	Date	Remarks	Price	Effective Amendments
501	Aircraft Registration Certificates	3-31-43	In stock; order from CAA only		
503	Recordation of Aircraft Ownership	3-31-43	In stock; order from CAA only		
510	General Regulations, Washington National Airport.	9-26-41	In stock; order from CAA only		
511	General Aeronautical Rules for the Washington National Airport	9-26-41	In stock; order from CAA only		
525	Notice of Construction or Alteration of Structures on or Near Civil Airways.	7-23-43	In stock; order from CAA only		
531	Seizure of Aircraft	12-8-41	In stock; order from CAA only		
532	Reproduction and Dissemination of Current Examination Materials.	1-15-43	In stock; order from CAA only		
600	Designation of Civil Airways	3-1-42	Not published [1]		1 thru 37.[1]
601	Designation of Airway Traffic Control Areas, etc.	1-15-42	Not published [1]		1 thru 57.[1]

Civil Aeronautics Manuals

04	Airplane Airworthiness	2-1-41	On sale at GPO	$0.50	Release 50, 97,[2] 105,[2] 117,[2] 140.[2]
14	Aircraft Propeller Airworthiness	12-1-38	In stock; order from CAA only		
15	Aircraft Equipment Airworthiness	7-1-38	On sale at GPO	.10	
16	Aircraft Radio Equipment Airworthiness	2-13-41	In stock; order from CAA only		Release 62.
18	Maintenance, Repair, and Alteration of Certificated Aircraft and of Aircraft Engines, Propellers, and Instruments.	6-1-41	On sale at GPO	.50	
50	Flying School Rating	12-40	In stock; order from CAA only		Release 77, 111
52	Repair Station Rating	2-41	In stock; order from CAA only		
53	Mechanic School Rating	5-40	In stock; order from CAA only		
60	Air Traffic Rules	8-1-43	On sale at GPO	.15	

[1] *See Air Navigation Radio Aids.*
[2] *Only pertinent pages furnished.*

Regulations

(*Continued from page 4*)

97.18 Depositions. After answer is filed by respondent, the testimony of any person within the United States may be taken by deposition at the instance of either the Administrator or respondent. Such depositions shall be taken before any person having power to administer oaths who is designated either by the examiner to whom the case is assigned or the Chief of the Safety Section.

97.19 Examiner's report—Exceptions—Oral argument. After the hearing the examiner, on the basis of the evidence submitted, shall prepare a report and recommendation to the Board. The General Counsel's Office of the Civil Aeronautics Board shall serve, by registered mail, a copy of this report and recommendation upon respondent and his counsel, if any. A copy shall also be served upon complainant. The parties to the proceeding shall have 5 days, or such additional time as the examiner may specify, after the date of service of such report and recommendation, within which to file exceptions thereto. If either complainant or respondent desires to argue his exceptions before the Board orally, request for such argument shall be made at the time of filing the exceptions.

97.20 Limitation of actions. The Board shall dismiss any allegations in a complaint filed with it which charges a violation of the Civil Air Regulations or other act occurring more than 6 months prior to the date of filing the complaint, unless the complainant shall show good cause for the delay.

No. 293—*December 8, 1943*

Applicants for air-traffic control-tower operator certificates who are on active duty with the United States Navy as air-traffic control-tower operators and are 18 years of age or more may be issued such certificates upon compliance with all requirements of Part 26 for their original issuance except section 26.1 (a). These certificates shall be valid only while serving as air-traffic control-tower operators in control towers operated by the United States Navy. The limitation may be removed when the holder of such certificate reaches the age of 21 years.

No certificate shall be issued pursuant to this regulation after the termination of the war, but certificates previously issued shall continue in effect unless otherwise ordered by the Board.

No. 294—*December 20, 1943*

Effective December 20, 1943, Regulation Serial No. 266 relating to physical requirements and medical certificates for military personnel of the Civil Aeronautics Administration War Training Service, adopted by the Civil Aeronautics Board on March 16, 1943, is hereby repealed.

NOTE.—*The provisions of this regulation are now included in Regulation Serial No. 295, effective December 20, 1943.*

No. 295—*December 20, 1943*

Regular or reserve members of the armed forces, assigned by their respective services for pilot training with the Civil Aeronautics Administration War Training Service or to duty requiring them to serve as air-traffic control-tower operators, shall upon application for the issuance of pilot or air-traffic control-tower operator certificates be deemed to have met the physical standards required by Parts 20 and 26 of the Civil Air Regulations respectively and shall not be required to be possessed of a medical certificate while performing such duties.

This regulation shall be effective for the duration of the war and not more than 6 months thereafter.

No. 296—*December 20, 1943*

Effective December 20, 1943, Regulation Serial No. 203 relating to the duration of existing pilot certificates, adopted by the Civil Aeronautics Board on January 28, 1942, is hereby repealed.

NOTE.—*Regulation Serial No. 203 is now covered by section 20.310 of the Civil Air Regulations, as amended.*

Amendment 20–6—*December 20, 1943*

Effective December 20, 1943, section 20.310 of the Civil Air Regulations is amended by striking the words "April 1, 1942" wherever they occur and substituting in lieu thereof the words "January 1, 1942."

Amendment 29–1—*December 10, 1943*

Section 29.2 of the Civil Air Regulations is amended to read as follows:

"29.2 *Waiver of physical standards.* An airman certificate shall be issued to an applicant, other than an applicant for the original issuance of an airline transport pilot certificate, who does not meet the appropriate physical standards if his aeronautical experience, ability, and judgment compensate for his physical deficiency and he meets all other requirements for the issuance of said certificate. Any certificate issued under these circumstances shall state that the applicant does not meet the appropriate physical standards prescribed herein but that his physical deficiencies were found to be compensated by his demonstrated aeronautical experience, ability and judgment. Such certificate may be limited as to type of operation, type of aircraft, or period of reexamination."

Restrictions Lifted For Flights Outside Vital Defense Areas

The burden of paper work imposed on pilots by emergency regulations is being lifted for those flying outside the vital defense areas, Administrator of Civil Aeronautics Charles I. Stanton has announced.

Amendments to the regulations, proposed by the CAA in August, now have been approved by military authorities and enacted by the Civil Aeronautics Board, he said.

The pilot flying between points outside vital defense areas will no longer be required to file information about his proposed flight or obtain clearance for it. Recording by airport authorities of take-offs, and landings will be considered sufficient protection, Stanton explained, since all aircraft owners and pilots have already been investigated and certificated for loyalty, a procedure begun shortly after Pearl Harbor.

"As the battlefront moves farther from our shores," Stanton said, "we hope it will be possible to ease the restrictions on civil flying even further, so that by the war's end the stage will have been set for a great increase in private airplanes."

Amended CAR on Sale

Part 27 of the Civil Air Regulations entitled "Aircraft Dispatcher Certificates," containing all amendments up to and including October 1, 1943, is now on sale at the Superintendent of Documents, Government Printing Office, Washington 25, D. C., for 5 cents a copy.

War Bond Sales Stunt Ends In Fatal Crash

On January 23, 1943, an accident occurred in a city street at Dover, Ohio, resulting in fatal injuries to Pilot Adam L. Wendling and his two passengers, Edward Early and Edward Early, Jr. Wendling, age 45, held a private pilot certificate with a single-engine land 0-220 h. p. rating. He began his flight training in 1937 and had flown approximately 336 hours, about 145 of which were in the type airplane involved. The aircraft, a Fairchild 24-G, was demolished.

Wendling and two passengers took off from the Municipal Airport, New Philadelphia, Ohio, after receiving clearance for a flight over Dover for the purpose of dropping advertising handbills from the air to stimulate the sale of war bonds. About 5 minutes later witnesses observed the aircraft headed northwest and gliding low over the business district of Dover. At an altitude of from 200 to 250 feet, some leaflets were seen falling from the plane. The pilot then applied power and started a right climbing turn into the wind, during which the plane was stalled. The nose dropped suddenly and before recovery was effected, the aircraft struck a tree and crashed to the ground.

Prior to the flight the pilot had telephoned the CAA General Inspection Office at Cleveland, Ohio, and obtained a verbal waiver to drop literature. He was instructed by that office to comply strictly with all flight regulations concerning altitude,[1] weather, etc., for contact flight. This was Wendling's first flight in about 7 weeks.

Probable cause.—Stall at an altitude too low to effect recovery.

Contributing factor.—Pilot's lack of consideration for safety in flying over a city at such a low altitude.

[1] Civil air regulations prohibit flight over congested areas at less than 1,000-foot altitudes and permission for "dropping objects in flight" is granted on the condition that such an altitude will be maintained.

Sailplane Succumbs To High, Gusty Winds

Bernard Peter Kunz was seriously injured and his passenger, Myron V. Bryant, suffered minor injuries in a glider accident which occurred at Combs Field, Denver, Colo., on March 29, 1943. Kunz held a commercial glider certificate and had accumulated approximately 100 solo hours, 25 of which were in the type of glider involved. The Frankfort B sailplane was destroyed.

Kunz obtained clearance for a series of flights in the vicinity of Combs Field and, accompanied by Bryant, took off behind a tow car into a gusty SSW wind of about 25 m. p. h. The tow rope was released at an altitude of approximately 200 feet and a descending turn of about 180° was made. While traveling downwind, a turn crosswind was started at an altitude variously estimated at between 20 and 40 feet, with the glider banked to about 45°. As the turn continued, the degree of the bank suddenly increased and the glider sideslipped to the ground, striking first on the left wing tip and then on the nose.

Examination of the wreckage revealed no evidence of malfunctioning of the control system. Pilot Kunz stated that the gustiness and velocity of the wind made it impossible for him to recover from the turn and resulting sideslip.

Probable cause.—Loss of control during a steep turn at an extremely low altitude.

Contributing factor.—High winds with extreme gustiness.

Lack of Precaution Causes Mid-air Collision

A mid-air collision which occurred near the north boundary of the airport at Texarkana, Ark., on December 19, 1942, resulted in fatal injuries to the two student pilots, Robert Eugene Pebley and Glenn E. Daniel. Each held a student pilot certificate and was enrolled in the War Training Service elementary course at the Jack Stuart Flying School. Pebley had acquired about 13 hours of flight time, approximately 2 of which were solo. Daniel had logged 16 hours, of which 4 were solo. The aircraft, a Porterfield CP-65, and a Piper J3C-65, were demolished.

Pebley, in the Porterfield, had been practicing 180° approach landings and was on the downwind leg of the traffic pattern, heading west. He was approximately midway of the airport, at an altitude of about 800 feet, when Daniel, in the Piper, returning from a practice area, entered the traffic pattern from the right at a 45° angle on the downwind leg, and, heading southwest, passed directly in front of the Porterfield. The right wing of the Porterfield struck the Piper, crushing the vertical fin and rudder, while its propeller cut into the left side of the fuselage forward of the horizontal stabilizer. After the two planes separated, the Porterfield made a right turn, then dived with power on and struck the ground in an almost vertical attitude, where it was consumed by fire. The Piper rolled into an inverted position and nosed down vertically at an angle of about 80°. It struck a large tree with the right wing, then fell to the ground in a mass of twisted parts.

Both pilots wore parachutes. Daniel's safety belt was unfastened and his body was found outside the cabin, indicating that he may have made an effort to jump.

While the pilot of the Piper did not exercise proper precaution and assure himself that the traffic pattern was clear before he entered it, it is apparent that both pilots were inexperienced and lacking in vigilance in failing to observe and avoid other aircraft.

Low, Reckless Flying Ends in Quarry Crash

Charles F. Ham was seriously injured in an accident which occurred approximately 2 miles north of Fort Scott, Kans., on April 5, 1943. Ham, a War Training Service elementary trainee, held a student pilot certificate and had flown approximately 27 hours, of which 9¾ hours were solo. The aircraft, a Piper J3F-65, was demolished.

Ham secured proper clearance and took off from Fort Scott Municipal Airport to practice turns, stalls, and spins. Prior to the accident, his instructor observed him in the area to which he had been assigned, about 2 miles northwest of the airport, practicing acrobatics at the proper altitude for these maneuvers. Shortly thereafter employees working in a rock quarry about 2 miles north of Fort Scott saw a plane approaching from the northeast at a very low altitude. They stated that the pilot executed several turns about 25 feet above the ground and directly over their heads, as if he were "trying to scare" them. During a steep turn the right wing struck the top of an air compressor operating in the quarry, 15 feet below the surrounding terrain. The plane crashed to the ground in the pit adjacent to the air compressor.

There was no indication of failure of any part of the aircraft prior to impact. Due to the noise in the quarry witnesses could not state whether or not the engine was functioning normally. However, the manner in which the propeller was broken indicated that considerable power was being developed at the time of the impact.

Student Ham stated that he started a right spin at 3,000 feet, in the practice area, and after two or three turns, attempted to recover but that he "blacked out" and remembered nothing further until he awoke in the hospital. However, it is impossible to reconcile this statement with the facts as stated by the witnesses.

Whether the pilot allowed the plane to assume a diving attitude into the quarry while his attention was diverted elsewhere, or stalled during a steep turn and fell off to the right could not be determined. In either event the accident was the direct result of his reckless flying with little regard for the safety of life and property.

Order No. 2376, dated July 28, 1943, revoked Pilot Ham's certificate. He may, however, apply for any pilot certificate for which he may be eligible after June 11, 1944.